

# Bay Area Toll Authority: Building Bridges

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October 2011

# Bay Area Toll Authority and the Metropolitan Transportation Commission

- Established in 1998 as part of the Metropolitan Transportation Commission (MTC), the Bay Area Toll Authority (BATA) oversees the seven state-owned toll bridges in the San Francisco Bay Area
  - San Francisco-Oakland Bay
  - San Mateo-Hayward
  - Dumbarton
  - Richmond-San Rafael
  - Carquinez
  - Benicia-Martinez
  - Antioch



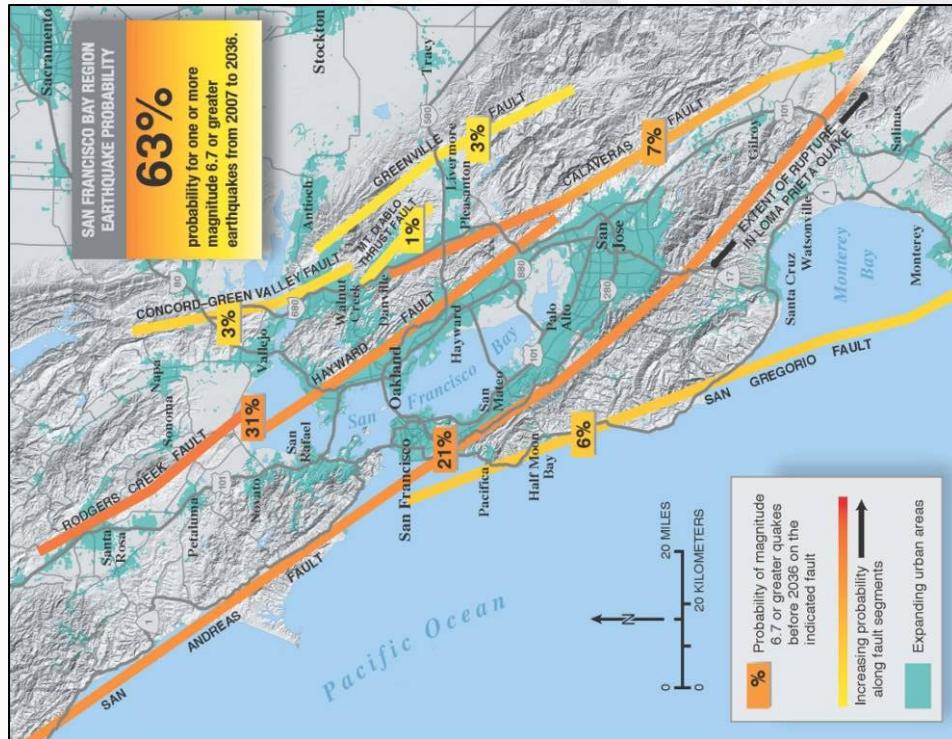
\* Golden Gate Bridge owned and operated by the Golden Gate Bridge, Highway and Transportation District (GGBHTD)

## Bay Area's Toll Bridges

Toll Bridge	Year Opened	Average Daily Crossings
San Francisco-Oakland Bay	1936	243,000
Richmond-San Rafael	1956	67,000
Carquinez	1958 / 2003	110,000
Benicia-Martinez Bridge	1962 / 2007	100,000
San Mateo-Hayward	1967	84,000
Antioch	1978	12,000
Dumbarton	1982	54,000
<b>Total Average Daily Crossings</b>		<b>670,000</b>

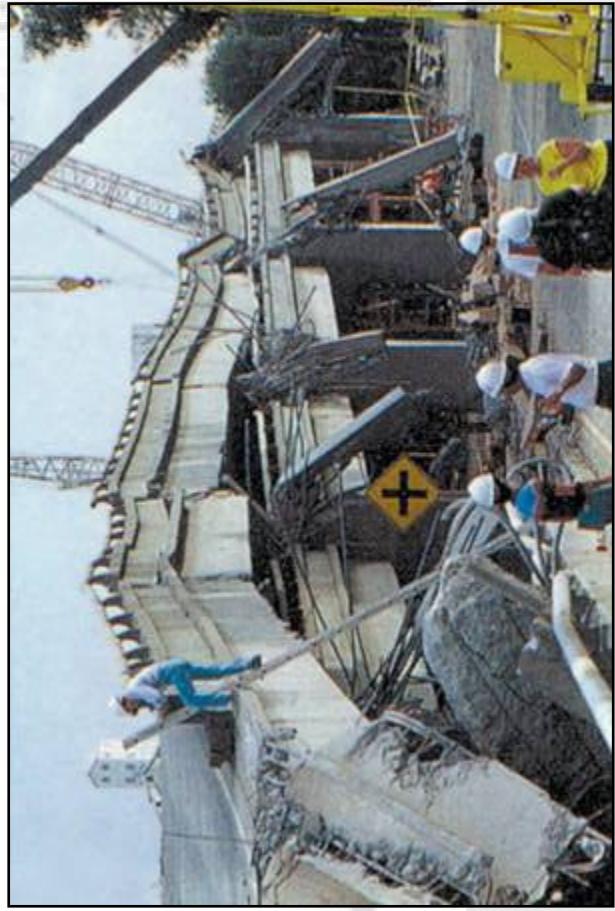
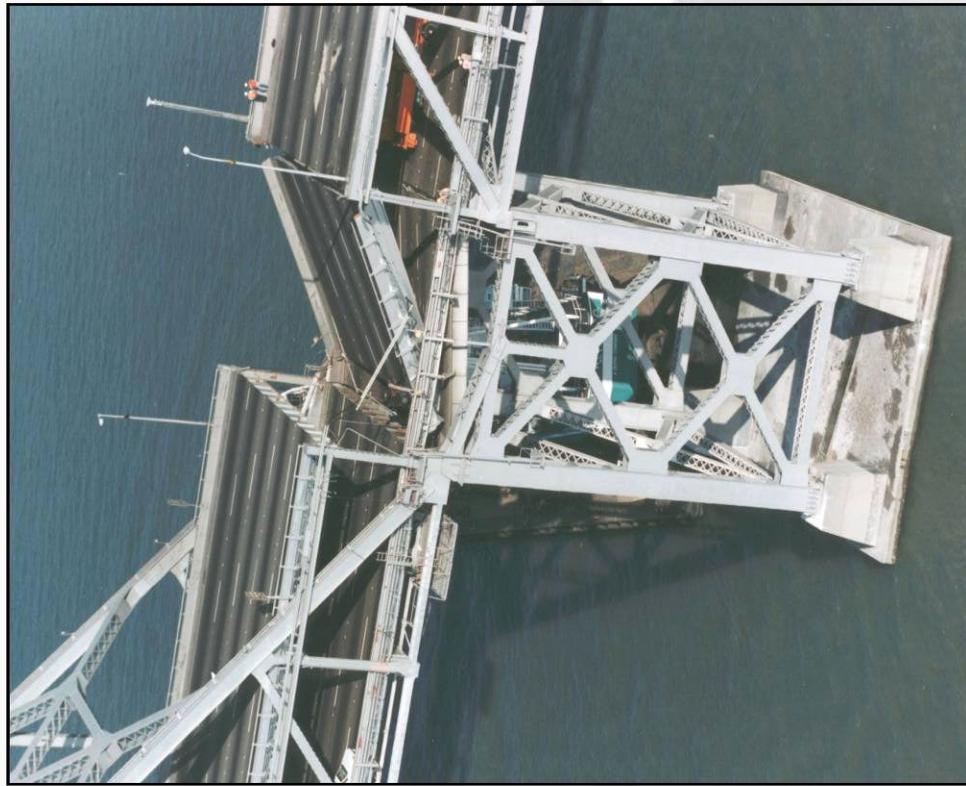
# Earthquake Probability

- In 2008, the USGS forecast that the overall probability of a magnitude 6.7 or greater earthquake in the Greater Bay Area is 63% over the next 30 years.

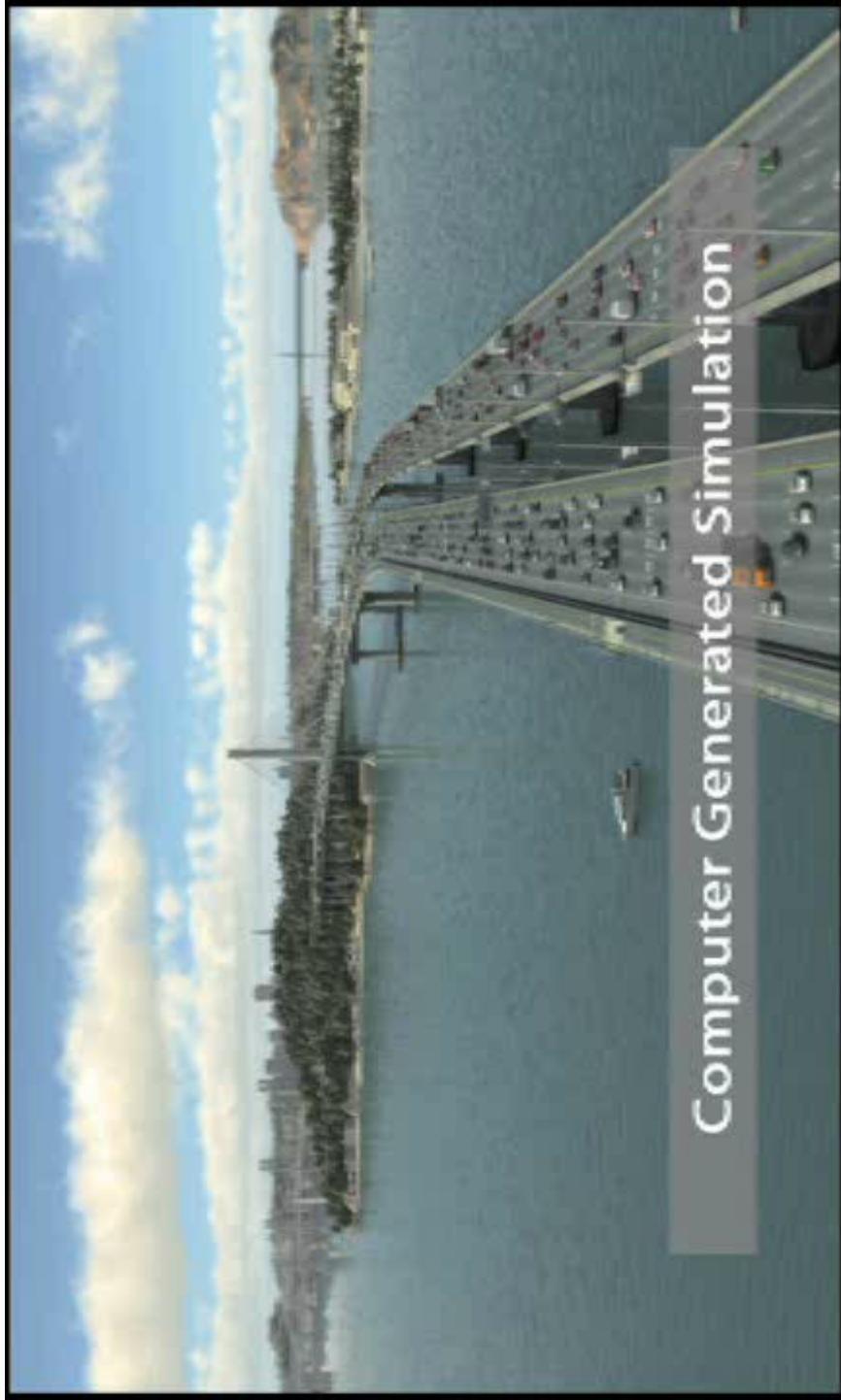


## 1989 Loma Prieta Earthquake

- 6.9 Magnitude
- 60 miles from San Francisco



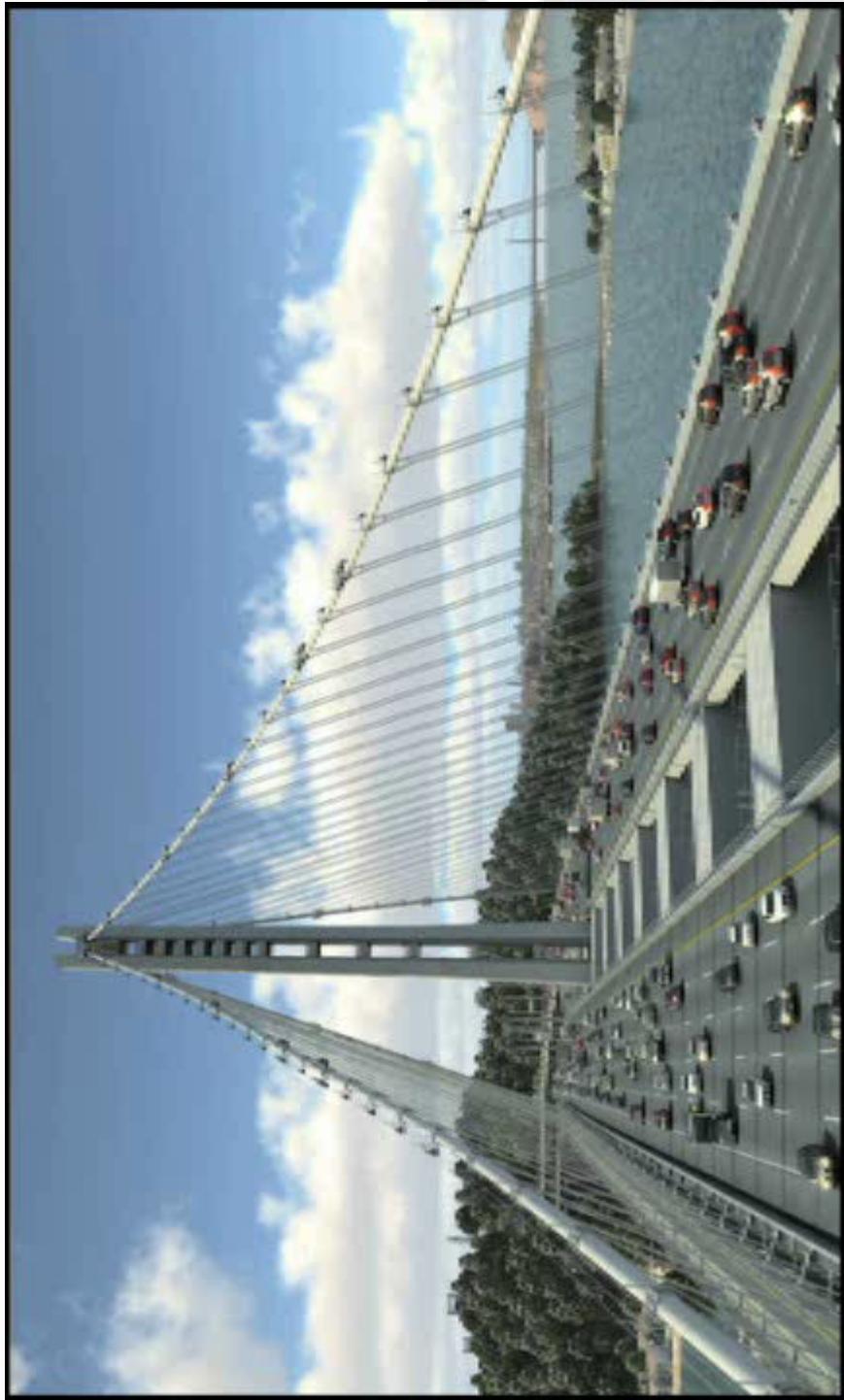
# Earthquake Simulation



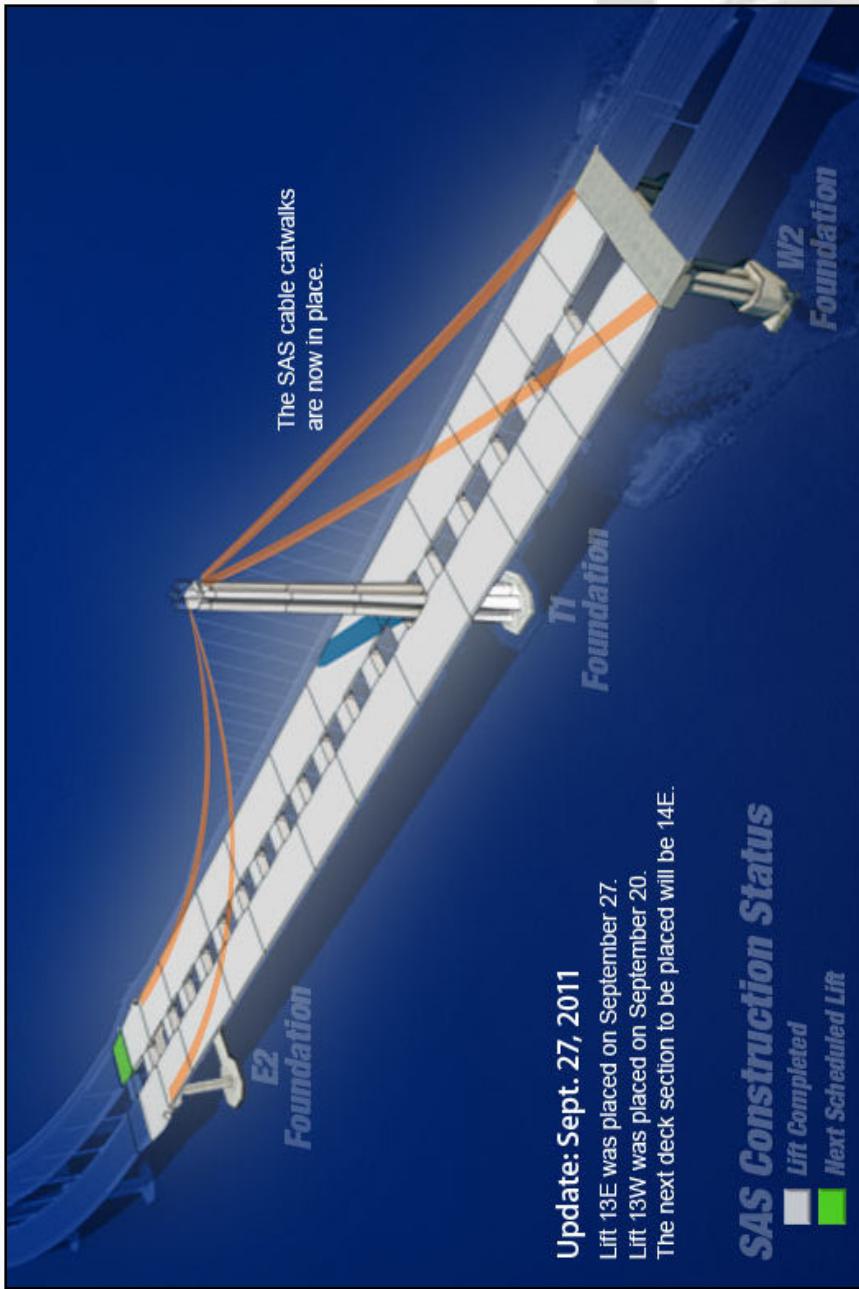
## Hinge Pipe Beams



## Seismic Shear Beams



# San Francisco-Oakland Bay Bridge East Span Seismic Safety Replacement Project Reaching Major Milestones



- Self-Anchored Suspension Span is 75% complete as of August 2011.
- On schedule to open by late 2013
- 26 of 28 roadway boxes installed with remaining 2 now on site in Bay Area.
- All tower sections installed.

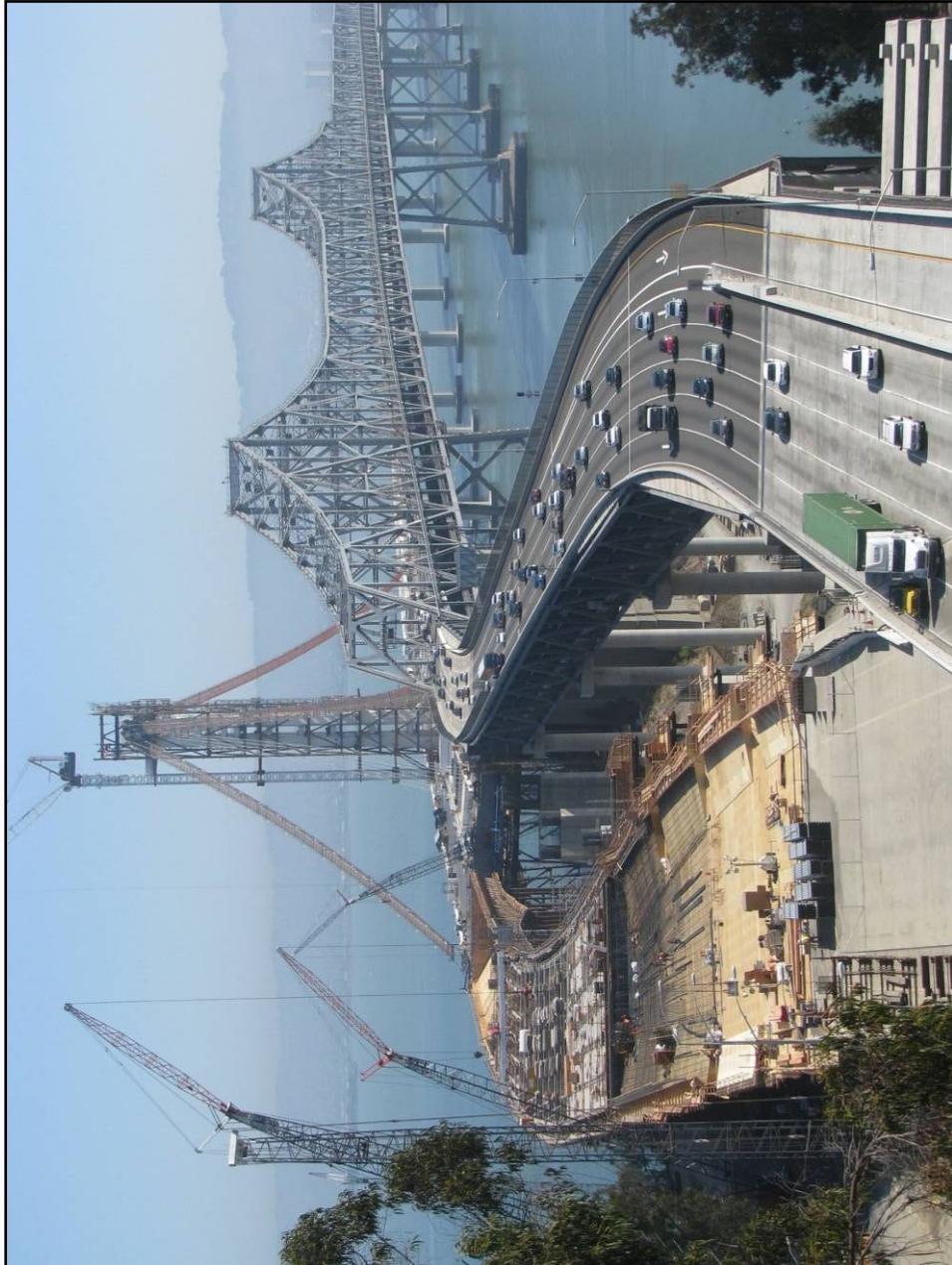
## Roadway Box 13 West Being Installed September 20



# Cable Installation Preparations Progressing



## Progress On-going on Other Bay Bridge Contracts

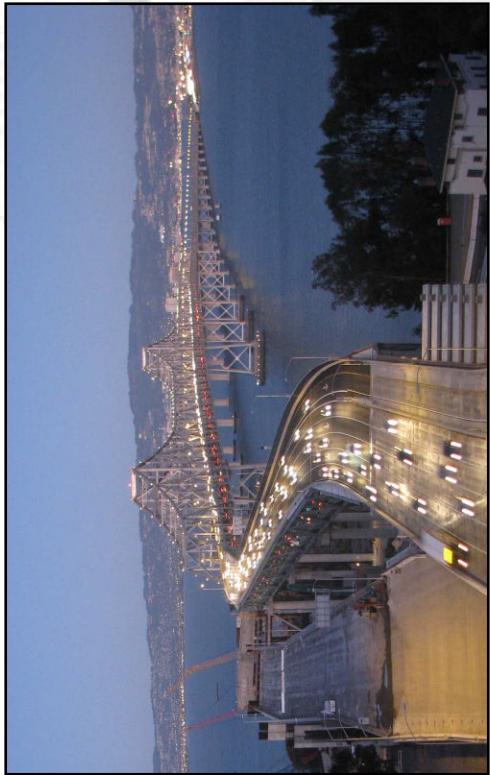


# COMPLETED

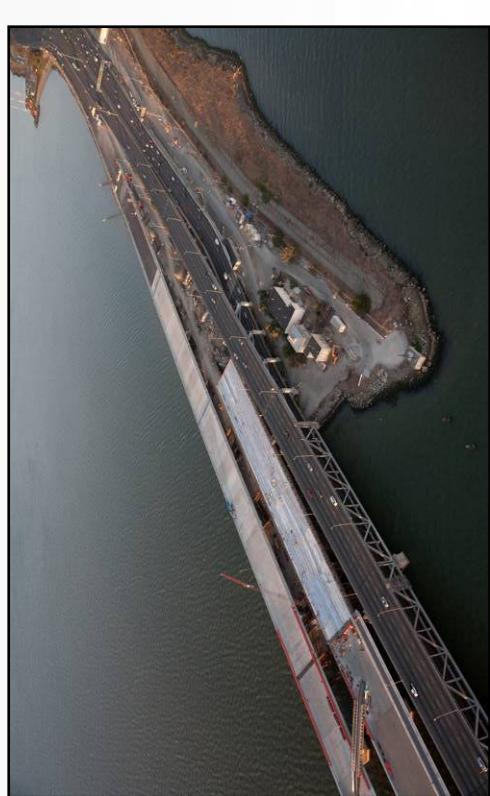
## Other East Span Contracts



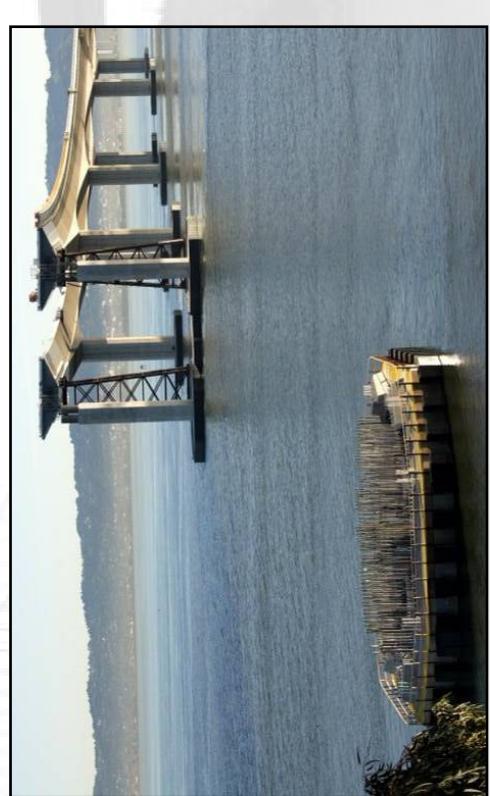
Skyway



Yerba Buena Island Detour



Oakland Touchdown 1

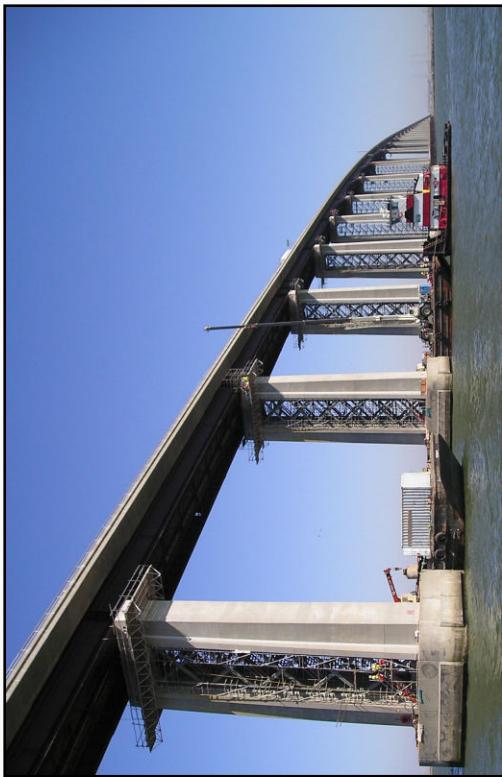


Self-Anchored Suspension Span Foundations

## Toll Bridge Seismic Retrofit Program

## In Construction

- \$9 Billion Retrofit Program  
On All 7 Toll Bridges
  - San Mateo-Hayward (2000)
  - 1958 Carquinez (2002)
  - 1962 Benicia-Martinez (2002)
  - San Francisco-Oakland Bay West Spans (2004)
  - Richmond-San Rafael (2005)
  - San Francisco-Oakland Bay West Approach (2009)
  - San Francisco-Oakland Bay East Span ([in construction](#))
    - Antioch ([in construction](#))
    - Dumbarton ([in construction](#))



1978 Antioch Bridge



1982 Dumbarton Bridge

# COMPLETED

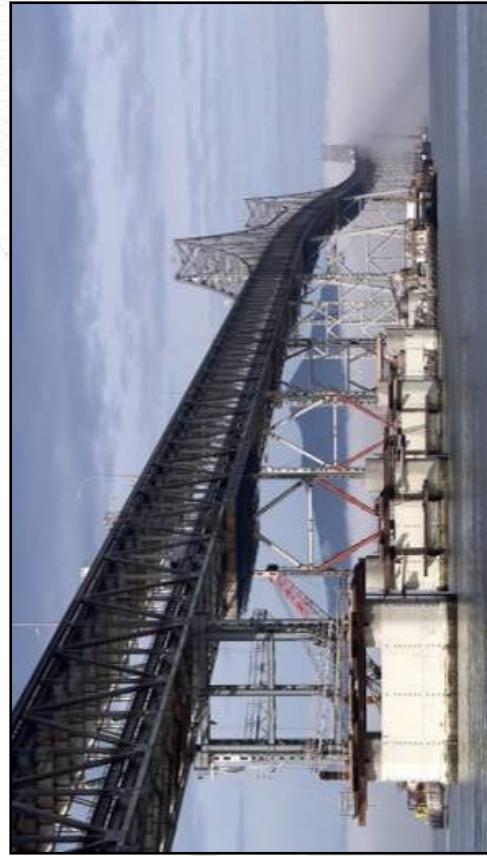
## Other Seismic Retrofit Projects



1962 Benicia-Martinez Bridge



1958 Carquinez Bridge



1956 Richmond-San Rafael Bridge

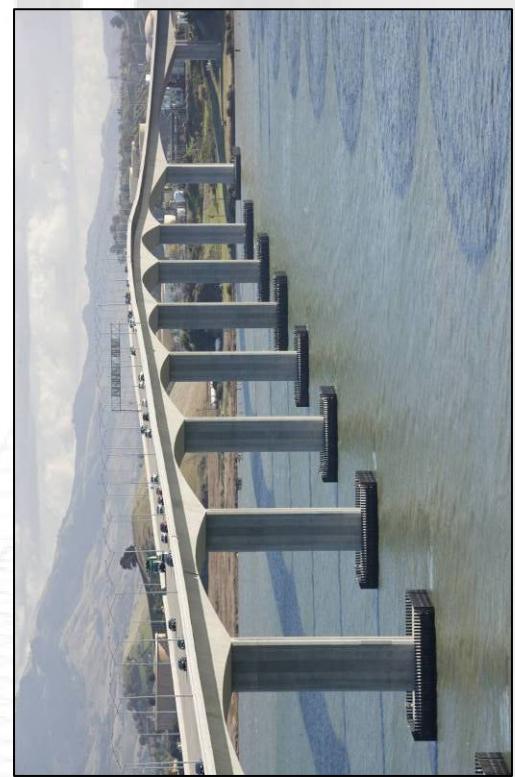


1967 San Mateo-Hayward Bridge

# Regional Measure 1 Program

# COMPLETED

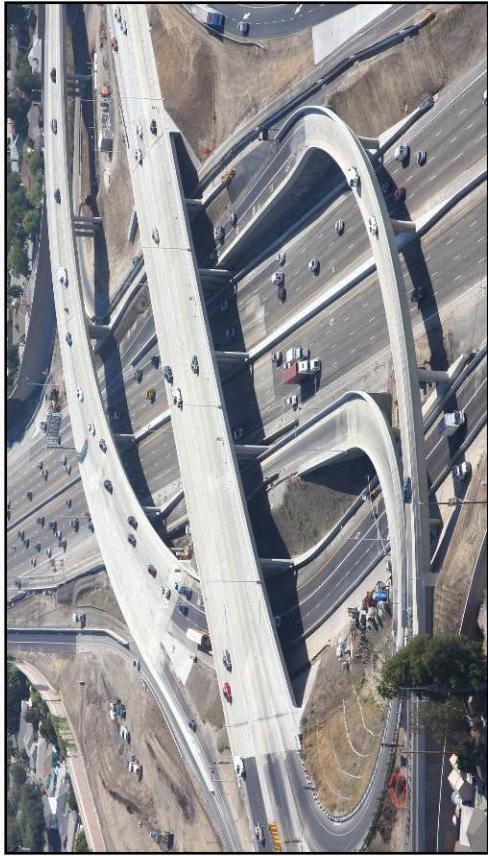
- \$2.4 Billion Toll Bridge Expansion Program
  - Richmond Parkway (2001)
  - San Mateo-Hayward Bridge Widening (2003)
  - Bayfront Expressway Widening (Route 84) (2004)
  - Richmond-San Rafael Bridge Rehabilitation (2006)
  - Alfred Zampa Memorial (Carquinez) Bridge (2003)
  - Congressman George Miller Benicia-Martinez Bridge (2007)
  - 1962 Benicia-Martinez Bridge Widening (2009)
  - Interstate 880/Route 92 Interchange Reconstruction (2011)



Congressman George Miller Benicia-Martinez Bridge

# COMPLETED

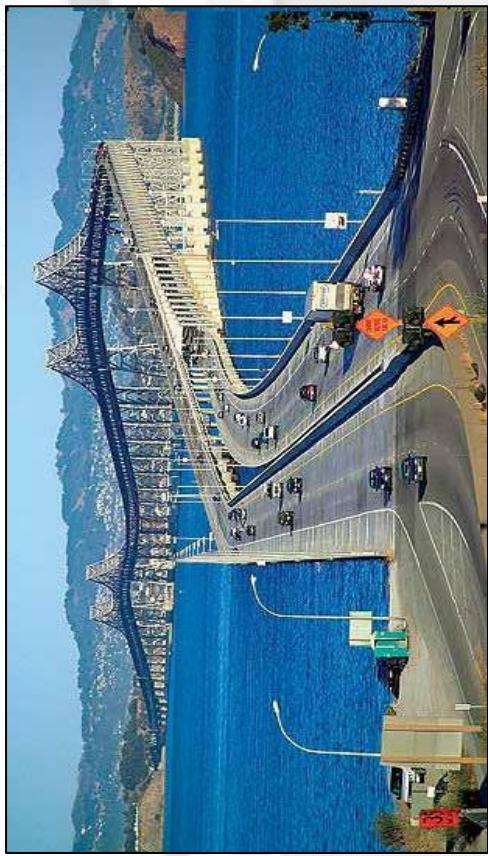
## Other Regional Measure 1 Projects



Interstate 880/Route 92 Interchange  
Reconstruction



Widened 1962 Benicia-Martinez Bridge



New Richmond-San Rafael Bridge Approach



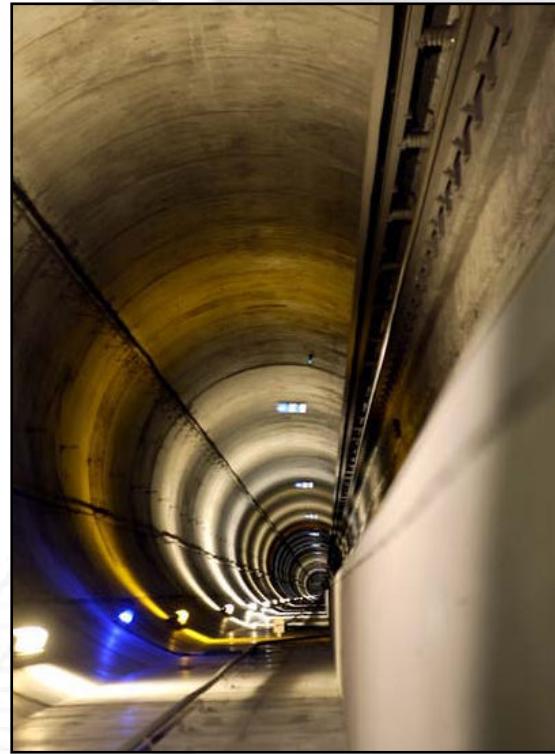
Widened San Mateo-Hayward Bridge

## Regional Measure 2 Capital Projects

## In Construction

- Primarily oriented towards transit alternatives
- Provides “partial” funding to projects; balance provided by project sponsor
- If funding or project fails, BART can reallocate funding to different project in the same bridge corridor

Major Projects	Funding (\$M)
BART Tube Seismic Retrofit	143
Dumbarton Rail	135
Transbay Terminal	150
Interstate 80/680 Improvements	100
E-BART Extension	96
BART-Warm Springs	95
Interstate 580 Corridor	65
Caldecott Tunnel (4 <sup>th</sup> bore)	51
Ferry Programs	197
Bus Programs	157



BART Transbay Tube Seismic Retrofit

## Regional Measure 2 Operating Projects

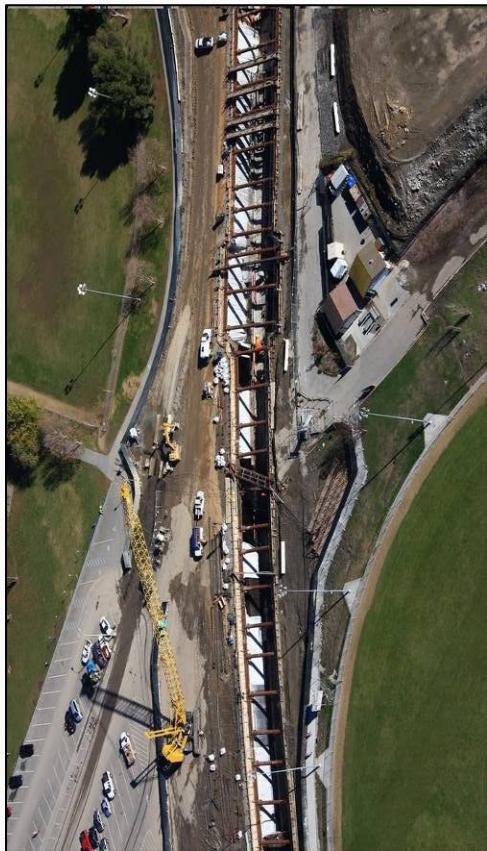
- RM2 provides a key source of funding for a variety of new transit services
- Operating cost payments are subordinated to debt service

Project	Annual Initial Cost (\$M)	Annual Funding Cap (\$M)
Dumbarton Rail	5.5	6.2
Alameda Ferry	6.4	7.2
Albany Ferry	3.2	3.6
South SF Ferry	3.0	3.4
Vallejo Ferry	2.7	3.1
Regional Express Bus (S)	6.5	7.4
Regional Express Bus (N)	3.4	3.9
Golden Gate	2.1	2.4
Napa Transit	0.4	0.4
Muni Metro	2.5	2.5
Water Transit Administration		
AC Transit	3.0	3.0
Owl Bus	1.8	2.1



Vallejo Ferry

## Other Regional Measure 2 Transit Projects Underway



BART Warm Springs Extension



WETA Ferry System Expansion

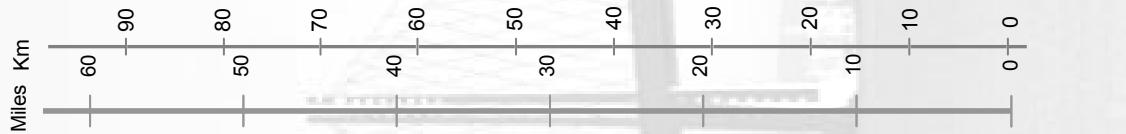
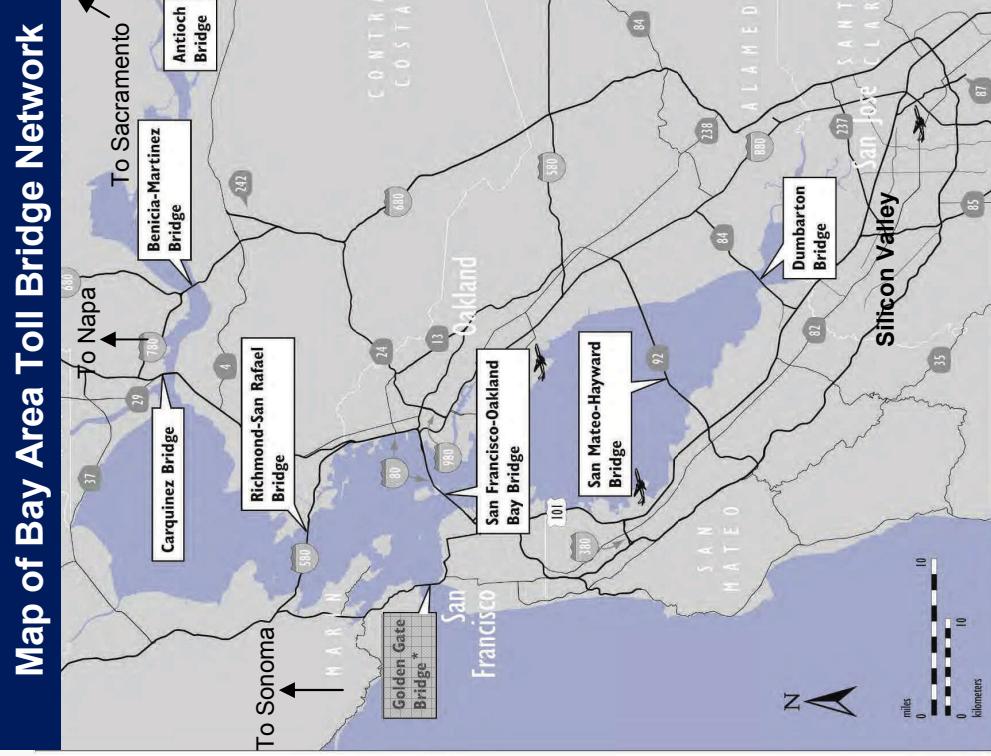


San Francisco Transbay Transit Terminal

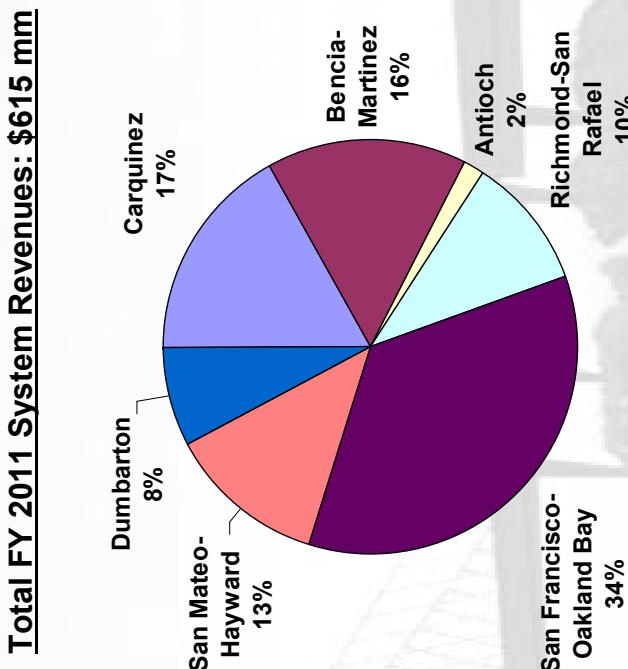


eBART Extension

# The Toll Bridge System is a Geographically Dispersed Regional Network



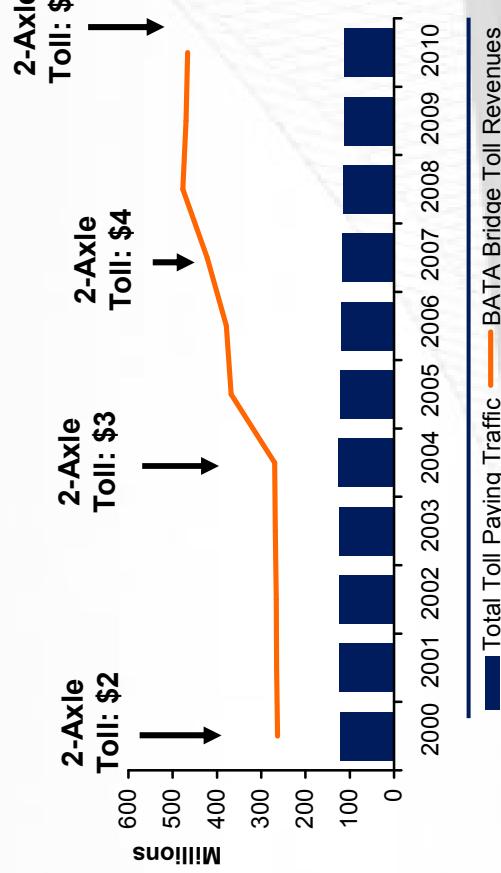
**Revenue Breakdown By Bridge**



**122 million toll paying vehicles/yr move through the system**

# Traffic Is Inelastic and Tolls are Relatively Low

Annual Traffic and Bridge Toll Revenues



Roundtrip Tolls – Prominent Roads / Bridges

2-Axle Toll:	\$5
Chesapeake Bay Bridge-Tunnel - Virginia/Maryland	\$17.00
Robert F. Kennedy Bridge - New York	\$13.00
George Washington Bridge - New York	\$12.00
Chicago Skyway - Chicago	\$7.00
Golden Gate Bridge - San Francisco	\$6.00
Ben Franklin Bridge - Philadelphia	\$5.00
<b>BATA Bridges</b>	<b>\$5.00*</b>

\* Off-peak rate

<sup>1</sup> Ferries: SF to Oakland/Alameda; Bus: AC Trans-Bay from SF Ferry Building to Jack London Square; BART: SF Embarcadero to West Oakland

<sup>2</sup> BART: Bay Area Rapid Transit

Alternative Bay Crossing Roundtrip Fees <sup>1</sup>	
Ferry	\$12.50
Bus	\$8.40
Train (BART) <sup>2</sup>	\$5.80

# Traffic Volumes Since July 2010 Toll Increase

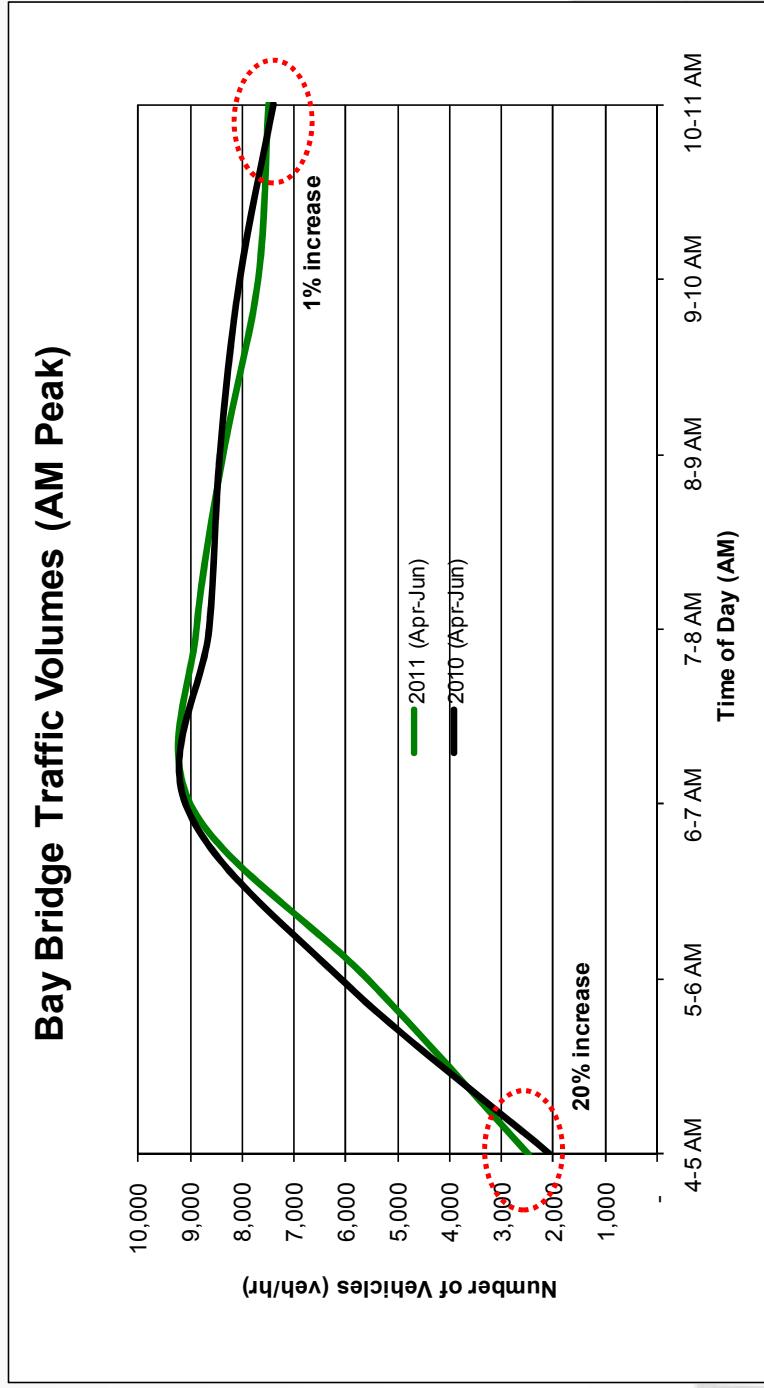
## State-owned Toll Bridges Average Daily Traffic (weekday) (Jul-Oct 2010 compared to Jul-Oct 2009)

	Pre Toll Increase (Jul 1 – Oct 31, 2009)			Post Toll Increase (Jul 1 – Oct 31, 2010)			Vehicle Difference		
	Full Fare	Carpool Discount	Total	Full Fare	Carpool Discount	Total	Full Fare	Carpool Discount	Total
Antioch	6,227	414	6,641	5,892	494	6,386	(335)	80	(255)
Benicia	51,495	2,353	53,847	52,538	1,481	54,019	1,044	(872)	172
Carquinez	53,574	4,603	58,177	53,448	3,092	56,539	(126)	(1,511)	(1,637)
Dumbarton	26,285	5,187	31,472	27,521	3,306	30,827	1,236	(1,881)	(645)
Richmond	34,155	1,881	36,036	34,664	1,247	35,911	510	(635)	(125)
SFOBB	112,150	17,981	130,131	112,715	13,075	125,789	564	(4,906)	(4,342)
San Mateo	40,011	6,242	46,252	42,164	4,559	46,723	2,153	(1,683)	471
Total	323,896	38,661	362,557	328,941	27,254	356,195	5,045	(11,407)	(6,362)

- Vehicles in carpool lanes are down by about 11,400 per day on all bridges.
- Full fare vehicles are up by about 5,000 vehicles per day on all bridges.

Note: For SFOBB, bridge closure days have been excluded from both 2009 and 2010 data.

# Bay Bridge Congestion Pricing



Since the onset of congestion pricing on the Bay Bridge, there has been:

- a 20% increase in traffic during the 4 to 5 a.m. hour; and
- a 1% increase in traffic during the 10 to 11 a.m. hour.

## BATA's "AA" Bond Ratings Reflect Strong Underlying Credit

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- Wealthy, diversified economy provides stable traffic flow; 112 million toll-paying vehicles annually
- All seven bridges being retrofitted to highest seismic standards; 4 ½ bridges are complete
- \$1 billion minimum cash balance provides ample liquidity to mitigate risk of revenue interruption
- Toll coverage bond covenants backed by unlimited and independent toll-setting authority

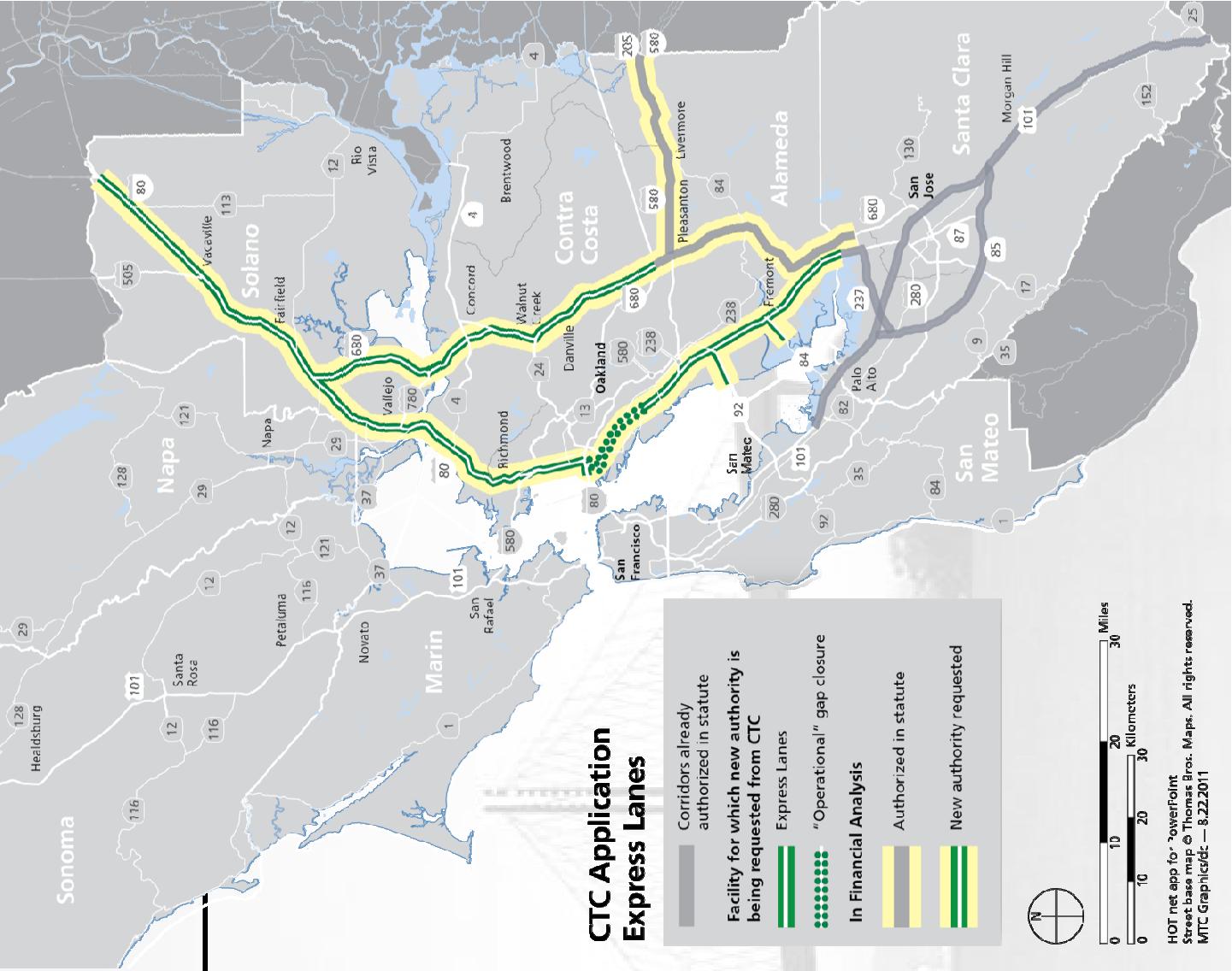
# Proposed Express Lane Network

## New Authority for 290-mile\* Facility

- ✓ 150 miles of converted HOV lanes
- ✓ 120 miles of new lanes
- ✓ 20 miles of operational gap closures (no tolling)

## Financial Analysis

Includes Facility plus previously authorized lanes in Alameda County, subject to agreement (70 miles)



\* Directional miles

